



ADOPTED

BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

29 October 4, 2016

Los Angeles County
Board of Supervisors

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October 04, 2016

LORI GLASGOW
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

**AUTHORIZE THE SOLICITATION AND ACQUISITION OF PHASE2
CONVERGE SERVER VIRTUALIZATION INFRASTRUCTURE HARDWARE,
SOFTWARE, AND PROFESSIONAL SERVICES FOR THE DEPARTMENT
OF HEALTH SERVICES DATA CENTER
(ALL SUPERVISORIAL DISTRICTS)
(3 VOTES)**

**CIO RECOMMENDATION: APPROVE (X) APPROVE WITH MODIFICATION ()
DISAPPROVE ()**

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Los Angeles, CA 90012

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Fax: (213) 481-0503

www.dhs.lacounty.gov

*To ensure access to high-quality,
patient-centered, cost-effective
health care to Los Angeles County
residents through direct services at
DHS facilities and through
collaboration with community and
university partners.*

SUBJECT

Authorize the solicitation and acquisition of Phase 2 Converge Server Virtualization Infrastructure hardware, software, and professional services with a purchase cost in excess of \$250,000 for Department of Health Services Enterprise Internal Cloud Solution.

IT IS RECOMMENDED THAT THE BOARD:

Authorize the Internal Services Department (ISD), as the County's Purchasing Agent, to proceed with the solicitation and acquisition of Converge Server Virtualization Infrastructure (Phase 2) hardware, software, and professional services for all Department of Health Services (DHS) systems hosted at LAC+USC Medical Center (LAC+USC MC) Data Center, with a total estimated cost of \$1,416,938.



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PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of this action will allow for the solicitation and acquisition of Converge Server Virtualization Infrastructure hardware, software, and professional services for DHS servers hosted at the LAC+USC MC Data Center, including support, configuration, installation, testing, five (5) year warranty, and five (5) years of maintenance. The current DHS Server Virtualization infrastructures have reached the size and design capacity limits due to rapidly growing server virtual workload demands within DHS.

The DHS Converge Server Virtualization platform will support Information Technology (IT) enterprise mission-critical server virtual workloads consolidated at the LAC+USC MC Data Center. The equipment will enable DHS to comply with Health Insurance Portability and Accountability Act requirements associated with the retention and storage of patient and clinical records supporting all DHS business and hospital IT operations. This acquisition is Phase 2 of DHS' ongoing project to maintain the integrity of the DHS Centralized Data Center environment systems and services. The Board's approval of the initial acquisition for Phase 1 on February 16, 2016, has enabled the Department to replace the existing servers located at Martin Luther King Jr. Outpatient Center (MLK OC) Data Center. Phase 2 will provide failover capability of the mission-critical server virtual workloads between LAC+USC MC and MLK OC Data Centers.

As part of DHS' consolidation strategy of various systems, the Converge Server Virtualization hardware and software are needed to: 1) replace end-of-life Server Virtualization infrastructures, and provide DHS with a modern Converge Server Virtualization platform that is highly optimized, flexible, and scalable to empower IT to react faster to business needs; 2) enable DHS to consolidate multiple virtual and physical environments onto a shared server virtualization infrastructure to yield additional economies of scale savings inherent in sharing converge infrastructure for server virtualization; and 3) provide capacity for future growth, as the hardware will include sufficient data and computing capacity, if needs increase.

In addition, replacing enterprise clinical information systems, such as Neurophysiology electroencephalography (EEG), MMODAL Health Information Management (HIM) speech recognition, Capacity Management Suite, and QPath Enterprise Solution, requires virtual hardware (server) upgrades. As a result, some of the current hardware (legacy servers) will be replaced with new virtual hardware. These efforts are part of DHS' goal to standardize server images across DHS facilities.

Implementation of Strategic Plan Goals

The recommended action will support Goal 1, Operational Effectiveness/Fiscal Sustainability, of the County's Strategic Plan.

FISCAL IMPACT/FINANCING

The total one-time estimated net cost of the hardware and software is \$1,416,938 for this Phase 2 acquisition, including professional services, five (5) year warranty, and five (5) years of maintenance. The details comprising the estimated total costs are shown in Attachment II.

Funding is included in DHS' Fiscal Year (FY) 2016-17 Adopted Budget.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

On October 16, 2001, the Board approved the classification categories for fixed assets and new requirements for major fixed assets (now referred to as capital assets) purchases requiring County departments to obtain Board approval to purchase or finance equipment with a unit cost of \$250,000 or greater prior to submitting their requisition to ISD.

The County's Chief Information Officer recommends approval of this purchase and that Office's Analysis is attached (Attachment I).

CONTRACTING PROCESS

This is a commodity purchase under the statutory authority of the County's Purchasing Agent. This acquisition will be competitively bid by the County's Purchasing Agent in accordance with County Purchasing Policies and Procedures established by ISD.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approval of the recommendation will enable continued implementation of DHS' various systems consolidation strategies.

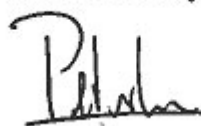
Respectfully submitted,



Mitchell H. Katz, M.D.

Director

Reviewed by:



PETER LOO

Acting Chief Information Officer

MHK:PL:sa

Enclosures

c: Chief Executive Office
Executive Office, Board of Supervisors
County Counsel
Internal Services Department



PETER LOO
ACTING CHIEF INFORMATION OFFICER

Office of the CIO
CIO Analysis

NUMBER:

CA16-16

DATE:

9/7/2016

SUBJECT:

**AUTHORIZE THE SOLICITATION AND ACQUISITION OF CONVERGE SERVER
VIRTUALIZATION INFRASTRUCTURE (PHASE 2) HARDWARE, SOFTWARE, AND
PROFESSIONAL SERVICES FOR THE DEPARTMENT OF HEALTH SERVICES DATA
CENTER**

RECOMMENDATION:

☒ Approve ☐ Approve with Modification ☐ Disapprove

CONTRACT TYPE:

☒ New Contract ☐ Sole Source
☐ Amendment to Agreement ☐ Other:

CONTRACT COMPONENTS:

☒ Software ☒ Hardware
☐ Telecommunications ☒ Professional Services

SUMMARY:

Department Executive Sponsor: **Mitchell H. Katz, M.D., Director, Department of Health Services**

Description: Authorize the Internal Services Department (ISD), as the County's Purchasing Agent, to proceed with the solicitation and acquisition of Server Virtualization Infrastructure (Phase 2) hardware, software, and professional services for the Department of Health Services (DHS) LAC+USC Data Center (DC), with a total estimated cost of \$1,416,938.

Contract Amount: \$1,416,938

Funding Source: Fiscal Year (FY) 2016-17 Adopted Budget

☐ Legislative or Regulatory Mandate ☐ Subvened/Grant Funded: Enter %

**Strategic and
Business
Analysis**

PROJECT GOALS AND OBJECTIVES:

The acquisition of Phase 2 Converge Server Virtualization hardware and software are needed to:

- 1) Reach a fully virtualized state to enable DHS the economies of scale and savings in line with County directions. This will enhance DHS' internal cloud services;
- 2) Replace five (5) aging end-of-life server infrastructure solutions at LAC+USC Medical Center (LAC+USC) and provide DHS with a modern Converge Server Virtualization platform;
- 3) Enable DHS to standardize on server and storage infrastructure and to further consolidate multiple virtual and physical environments to yield further consolidation;

4) Create a redundant and highly available enterprise applications infrastructure for local critical applications currently hosted at LAC+USC and MLK DC's. DHS' main focus today is centralization/consolidation of all systems into two Enterprise DC's (LAC+USC and MLK); 5) Provide enough capacity for approximately 30 percent future growth.

BUSINESS DRIVERS:

This is Phase 2 equipment and software solicitation and acquisition strategies in DHS' ongoing project to maintain the integrity of the DHS centralized DC environment, systems and services, and to streamline operational maintenance and improved service provisioning.

PROJECT ORGANIZATION:

The project will continue to be managed by Enrique Garcia, Associate, Chief Information Systems, and Brenny Ortega, Information Technology Manager II. A team of six members, one from each facility, has been formed to lead this effort throughout DHS. A detailed project structure that includes DHS and vendor resources is in place.

PERFORMANCE METRICS:

This project will be measured on the following success criteria:

- VM server deployment time will be reduced to approximately four hours versus three days.
- There will be no degradation of response time from applications. Response times are expected to improve because of optimization on the newer storage array.

STRATEGIC AND BUSINESS ALIGNMENT:

Converge Server Virtualization Infrastructure supports Goal 1, Operational Effectiveness/Fiscal Sustainability, of the County's Strategic Plan.

PROJECT APPROACH:

This project includes two phases:


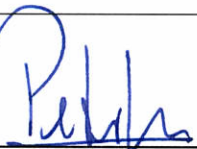
Phase I (April 2016 – June 2016) has been successfully completed.

Phase II (Sept 2016 – December 2016):

This Phase will enable DHS to consolidate five (5) existing legacy virtualization environments (in LAC+USC) which host existing clinical critical application loads, accommodate projected future growth, and provide failover capability of the mission critical server virtual workloads between the two main DHS DC's at LAC+USC and MLK facilities. This will ensure business continuity by protecting mission critical server virtual workloads from local DC outage.

ALTERNATIVES ANALYZED:

The acquisition will be through a brand-specific competitive bid process in accordance with County Purchasing Policies and procedures for new storage technology.

Technical Analysis	<p>ANALYSIS OF PROPOSED IT SOLUTION:</p> <p>This refresh hardware and software will provide virtual servers infrastructure to support about 630 VM workloads and allow for an additional 30 percent growth between DHS Administrative and Clinical facilities. Server Virtualization will enable centralized hardware management, OS, and applications within LAC+USC and MLK, leveraging shared resources for server workloads; improve security of operating systems and applications by centralizing management of approved OS, applications, user permissions, and enabling automation of manual systems administration tasks.</p> <p>The expansion of this infrastructure is to directly support clinical systems at DHS hospitals and DHS still plans to migrate non-clinical workloads to the County Data Center in the future.</p>										
Financial Analysis	<p>BUDGET:</p> <p>Costs:</p> <p>Phase 1 (FY 2015-16)</p> <p>Phase 1 Total Contract Sum: \$ 1,035,980.00</p> <p>Phase 2 (FY 2016-17)</p> <table> <tr> <td>Hardware.....</td><td>\$956,250.00</td></tr> <tr> <td>Hardware Maintenance (5 years).....</td><td>\$245,844.00</td></tr> <tr> <td>Professional Services</td><td>\$124,000.00</td></tr> <tr> <td>Sales Tax</td><td>\$ 90,844.00</td></tr> <tr> <td>Phase 2 Total Contract Sum:</td><td>\$ 1,416,938.00</td></tr> </table> <p>Total Project cost \$ 2,452,918.00</p>	Hardware.....	\$956,250.00	Hardware Maintenance (5 years).....	\$245,844.00	Professional Services	\$124,000.00	Sales Tax	\$ 90,844.00	Phase 2 Total Contract Sum:	\$ 1,416,938.00
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Sales Tax	\$ 90,844.00										
Phase 2 Total Contract Sum:	\$ 1,416,938.00										
Risk Analysis	<p>RISK MITIGATION:</p> <p>The Department Information Security Officer reviewed this request and did not identify any IT security or privacy issues.</p> <p>The Chief Information Security Officer reviewed this request and did not identify any IT security or privacy issues.</p>										
CIO Approval	<p>PREPARED BY:</p> <p></p> <p>Sanmay Mukhopadhyay, Sr. Associate CIO</p> <p>9/21/2016</p> <p>Date</p> <p>APPROVED:</p> <p></p> <p>Peter Loo, Acting County Chief Information Officer</p> <p>9/21/16</p> <p>Date</p>										

Please contact the Office of the CIO (213.253.5600 or info@cio.lacounty.gov) for questions concerning this CIO Analysis. This document is also available online at <http://ciointranet.lacounty.gov/>

Description	One Time Cost
Hardware	\$ 956,250
Hardware Maintenance (5 Years)	\$ 183,150
Support Services (5 Years)	\$ 62,694
Professional Services	\$ 124,000
Sales Tax	\$ 90,844
TOTAL	\$ 1,416,938